



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,237	11/03/2003	Robert L. Fuss	8540G-000183	4919
27572	7590	07/18/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			MAPLES, JOHN S	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

1745

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,237

Applicant(s)

FUSS ET AL.

Examiner

John S. Maples

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 ~~is~~/are pending in the application.
- 4a) Of the above claim(s) 10-30 ~~is~~/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 ~~is~~/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Applicant's election without traverse of Group I in the reply filed on May 11, 2006 is acknowledged.

2. Claims 10-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. (New Rejection)

The last four lines of claim 1 that were added by amendment on January 19, 2006 comprise the new matter. There is no support for this added claimed subject matter in either the present specification or the drawings.

Applicant states that paragraphs 39, 40 and 45 provide support for this claimed subject matter. The examiner does not see where these portions of the present application support the new claim language. Paragraph 39 states that in the grooves 66 in the bipolar plate 56, "the catalyst loading may be increased in these areas". Thus the catalyst loading is greater in the middle of the flow path than other areas. This disclosure is contrary to the newly added claimed subject matter where claim 1 states

Art Unit: 1745

that “at least one flow path has a greater concentration of catalyst at [said] inlet of said flow path as compared to outlet of said flow path”. In addition, paragraph 45 states that “an electrode with a decreased catalyst loading in the peripheral region and an increased catalyst loading in the central region” is used. This disclosure is also opposite to the language added by applicant in claim 1. Also, there is no disclosure in either paragraph 39, 40 or 45 for different catalyst coating amounts in an inlet of one flow path compared to an outlet of an adjacent flow path.

It is noted that other portions of the present specification support increased catalytic loading of the electrode at a central region versus a peripheral region-see paragraphs 26 and 28 of the present specification.

Finally, claim 3 recites structure that contradicts the newly added language to claim 1.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Srinivasan et al.-US 2002/0150804. (Srinivasan)

Reference is made to the Abstract of Srinivasan along with Figures 3, 4A, 4B and 5, and in particular Figure 4B, where it is seen that the fuel cell has varying electrocatalyst concentration across different flow paths across the fuel cell because of

Art Unit: 1745

the presence of the electrical contacts. The electrical contacts also provide greater catalyst concentration at the inlet of the flow path compared with the outlet. Reference is also made to paragraphs 59-73 for the written description.

Applicant's arguments have been considered but are not deemed persuasive. Applicant argues that the coating of catalyst does not vary across the electrode in Srinivasan. As seen in Figure 4B of Srinivasan, the presence of the electrical contacts provides for varying catalyst loading across the electrode. And because of the configuration of such contacts, there would be a greater amount of catalyst at an inlet of the flow path than at an outlet of the flow path.

It is noted that applicant did not respond to the examiner's assertion of the presence of the electrical contacts in the reference to Srinivasan and how it affects the catalyst loading.

7. Claims 1, 2, 5-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Frost et al.-US 5,702,839. (Frost)

See the Abstract to Frost along with column 6, line 40 through column 8, line 51 and Example 1. These portions of Frost describe a flow path across an electrode where the catalyst loading is greater at the inlet than at the outlet-see column 7, lines 27-30 and Example 1. In view of the patterns as set forth in these portions in Frost, there would inherently be adjacent flow paths with different catalyst loadings at an inlet of one path and an outlet of another path.

Applicant's arguments have been considered but are not persuasive. Applicant argues that Frost does not teach increased catalyst from the gas inlet to the gas outlet.

Art Unit: 1745

This is not the claimed language of claim 1. Claim 1 sets forth decreased catalyst from the gas inlet to the gas outlet. Frost sets forth such catalyst loading as set forth above.

Applicant further argues that Frost does not teach adjacent flow channels with different catalyst loads. In view of Frost teaching the patterned catalyst loading in column 7 as set forth above, there would be adjacent paths of differing catalyst loading.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frost in view of Trabold et al.-US 6,916,573. (Trabold) (New Rejection)

The only claimed feature not shown by Frost is the dot-shaped regions. Column 3, lines 23-32 of Trabold set forth dot-shaped varying loading of catalyst and to include the same in Frost would have been obvious to one of ordinary skill in this art so that the

Art Unit: 1745

electrode could be more easily made utilizing the dot structure. The varying amount of dot-shapes would also have been obvious since Frost teaches such variable catalyst loading.

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

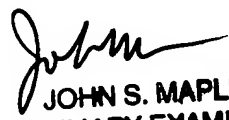
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Thursday, 6:15-3:45, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSM/7-12-2006


JOHN S. MAPLES
PRIMARY EXAMINER